

THE MALE AND LARVA OF *Aedes dominicii* RANGEL & ROMERO SIERRA, AND THE MALE OF *Aedes pseudo-dominicii* SP. NOV., REPRESENTATIVES OF A NEW SUBGENUS (*SOPERIA*) OF THE GENUS *Aedes*, FROM COLOMBIA.<sup>1</sup>

By W. H. W. KOMP,  
Sanitary Engineer, U. S. Public Health Service.

During the course of a mosquito survey made in the vicinity of Restrepo, Meta, Colombia, the writer found adults of what was identified as *Aedes dominicii* R. & R. S. rather common in the jungle. At the writer's suggestion, Dr. E. Osorno M. of the Yellow Fever Laboratory in Restrepo, collected a number of saxicolous bromeliads, from which numerous larvae, pupae and adults of both sexes were obtained. Neither larva nor male have hitherto been described. In the same region, several males of what was apparently the same species were taken by netting. The male terminalia of *A. dominicii* and of the latter species are unlike those of any known species of New World *Aedes*, but resemble each other closely. Neither species has claspettes on the side-pieces. The only other *Aedes* species known to occur in the New World which do not possess claspettes are *Aedes (Stegomyia) aegypti* L., *Aedes (Aedimorphus) vexans* Meigen, and *Aedes (Aedes) cinereus* Meigen, all of which also occur in the Old World. It was thought that the two Colombian species might be representatives of the genus *Stegomyia*, as the adults possessed the black and white scale-vestiture characteristic of many of the species of this genus. As the writer had no specimens of the Oriental species of *Stegomyia* for comparison, slide-mounts of the terminalia were submitted to Dr. F. W. Edwards of the British Museum, who kindly wrote as follows: "I have examined these and do not agree with your suggestion that they belong to the subgenus *Stegomyia*. The phallosome in both is of the *Finlaya-Ochlerotatus* type, and does not at all resemble that of *Stegomyia* and other "Old-World" genera, and I would attach more importance to the structure of the phallosome than to the presence or absence of claspettes."

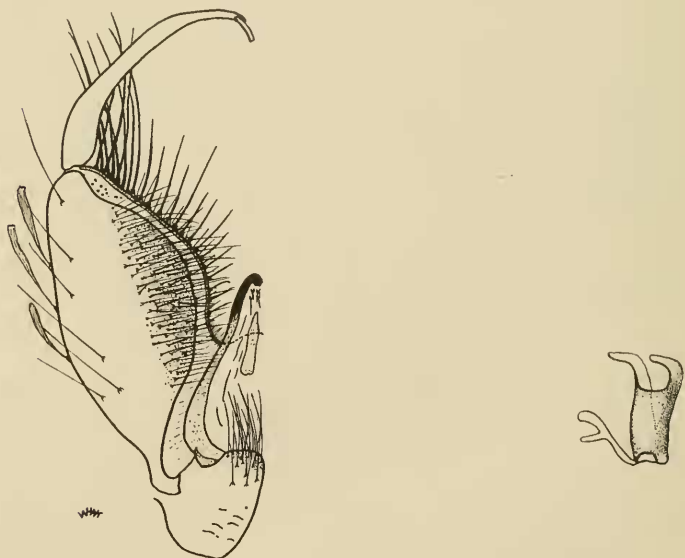
Therefore it seems necessary to erect another subgenus in the genus *Aedes*, to include these two unique forms from South America, characterized by their black and silvery-white scale vestiture, and the absence of claspettes, and having a mesosome of the *Finlaya-Ochlerotatus* type. I shall name this subgenus *Soperia*, in honor of Dr. Fred L. Soper, representative of the International Health Division of The Rockefeller Founda-

<sup>1</sup> The studies and observations upon which this paper is based were made with the support and under the auspices of the International Health Division of the Rockefeller Foundation, in cooperation with the U. S. Public Health Service and the Departamento Nacional de Higiene of the Republic of Colombia.

tion for South America. The type of the subgenus is designated as *Aedes (Soperia) dominicii* Rangel & Romero Sierra (1907) (1).

The writer has not seen the original description of this species, but has seen a transcription (in French) by Surcouf and Gonzales Rincones (2). Dyar (3) gives a recognizable description, presumably taken from Surcouf and Gonzales R., but says: "Legs black; a white spot on outer third of femora; tarsi white-ringed (exact joints not mentioned)." However, in the description given by Surcouf and Gonzales R. it is said that the two first joints of the tarsi of the three pairs of legs are ringed with white at the base; the last joint of the third pair is not white.

Regarding the identity of *Aedes dominicii*, in view of the fact that the author found two species in Colombia apparently identical in coloration, it is not possible to be sure without additional material from the type locality of *dominicii*, in Venezuela. It is possible that still another species exists there, distinct from either of the two species described in this paper. However, until the receipt of additional material from Venezuela, the male and larva of the commoner species found in Colombia will be assigned to *A. dominicii*, and the other species will be described as new.



One-half of male terminalia of *Aedes pseudodominicii*.

Right: Three-quarter view of mesosome.

Notes on *Aedes dominicii* R. & R. S.

Considering the state of the art at the time the description was written (1907), that given by Rangel & Romero Sierra is very precise and accurate. However, several characters of the adult not mentioned by them should be given, to complete the record. These characters are taken from females bred from isolated larvae; males having the characters in the terminalia as given below for *dominicii* were bred from apparently identical larvae. In both sexes the paired median silvery-white mesonotal lines extend posteriorly to the scutellum, where they meet. The middle lobe of the scutellum is silvery-scaled, and with the lateral lobes, has many long coarse bristles. The two median lines reach the anterior edge of the mesonotum, but do not extend over it. At the anterior prominence, between the lines, is a silvery spot. A silvery line on each side outlines the anterior edge of the mesonotum. On each side of the paired median lines, are paired submedian lines, which do not extend to the anterior edge of the mesonotum. These lines are expanded at their anterior ends, terminating in a rounded, laterally directed part composed of larger, broader white scales. Sides of thorax with patches of very broad, silvery white scales; one patch anterior to root of wing; several patches on the proepimeron and mesepimeron unite with those on the pronotum to form a broad



One-half of male terminalia of *Aedes dominicii*.

Right: Somewhat lateral view of mesosome, to show curved tips.

white lateral line. Patches of scales on the sternopleuron and lower edge of the mesepimeron; coxae also white-scaled. Claws of female all simple. Abdomen with the venter of last few segments projecting. Proepimeral, postspiracular, prealar and sternopleural setae present; spiracular setae absent.

**MALE TERMINALIA:** Clasper (style) long, slender, tapering, slightly expanded at tip, with long cylindrical subterminal spine about one-third the length of clasper. Side-piece rather short, broad, conical at tip, the ventral (apparent dorsal) surface clothed with long truncate scales. The chitinous walls are not continuous entirely around the side-piece, but are interrupted by a narrow membranous area extending from base to tip, so that two "flaps," the so-called upper and lower flaps of the side-piece (Edwards 1920) are formed. From the upper flap (morphologically ventral in position) arises at about the middle an oval lobe, clothed with short setae at the base, and with very long, flattened S-shaped setae, longer towards the apex of the lobe. A large area on the lower flap is heavily clothed with fine setae, which towards the apex of the side-piece become long, slender, flattened filaments, recurved and widened beyond their middles, with long, fine filamentous tips. Claspettes absent. Mesosome (phallosome) rather long, slender, simple; laterally compressed, the tips produced into two horns which project forward (dorsally) and laterally; basal opening long, oval; apical opening short, V-shaped, so that the lower bridge is narrow and the upper bridge wide. Tenth sternites rather short, with a single recurved tooth at tip. Lobes of the ninth tergite quadrate, sclerotized, prominent, with 5 or 6 flattened, pointed setae curving laterally.

**LARVA:** Head globular, nearly round. Preclypeal spines long, strong, curved. Two pairs of anterior clypeal hairs; most anterior pair in tuft of 6, the next posterior pair inserted slightly closer together, in tuft of 10. Posterior clypeal hairs stronger, in tufts of 6 to 8, set more widely apart than anterior clypeals. A 10-haired tuft on the front just posterior to base of antenna. Subantennal tuft multiple. Inner occipital tuft weak, 3-haired. Outer occipital tuft weak, 10-haired. Antenna short, nearly smooth (a few short weak spines are present), cylindrical, with a 2- or 3-haired tuft slightly beyond middle, less than half the length of the antenna. Tip of antenna with 4 or 5 long spines and a papilla. Integument of entire body rather densely long-pilose. Many short, stout stellate hair-tufts on both upper and lower sides of thorax and abdomen. Lateral hairs of first and second abdominal segments in threes, on third to fifth segments double, on sixth single. Comb of 8th segment with 9 or 10 long, smooth, unfringed, pointed spines, in a single regular row. Anal segment longer than broad, not completely ringed by the chitinous saddle, which is diagonally truncate at sides. Posterior edge fringed with many long spines. Lateral tuft 2-haired, very long. Ventral brush weak, the anterior hairs single, the most posterior 2-branched. Outer caudal tuft a single long hair. Inner caudal tuft long, five-haired. Anal siphon about 3 times as long as wide, slightly wider at middle, tapering to tip; the base is encircled by a dark sclerotized ring, and the whole surface is minutely long-spicular. Pecten of about 15 spines, shorter near base, becoming longer towards tip. Each spine long, slightly curved, with a single short tooth at about one-third distance from base to tip. A long 2-haired tuft is inserted just beyond the pecten.

*Aedes* (*Soperia*) *pseudodominicii*, new species, here described.

The author has only a few male specimens, taken by netting, and not in perfect condition. In coloration, no constant characters which will separate these males from those of *dominicii* have been found. However, the male terminalia are abundantly distinct, sufficiently so that they may be distinguished from those of *dominicii* by direct examination, before mounting them in balsam.

**MALE TERMINALIA:** Clasper long, flattened, thicker at base, tapering towards tip, with rather short, blunt subterminal spine. Side-piece rather short, broad, conically tapered towards tip, the ventral (apparent dorsal) surface clothed with long scales. The "upper and lower flaps" are separated by a membranous area, as in *dominicii*. The upper flap, which is *without* a definite lobe, is clothed with few short setae towards the base; these setae become progressively longer and coarser towards the tip, where they form a conspicuous projecting tuft, half as long as the clasper. On the lower flap is a large triangular area, densely clothed with fine uniform setae from tubercles, slightly longer towards the base, shorter towards the apex of this area. Claspettes absent. Mesosome rather short, simple, oval in cross-section, the apex produced into two curving horns, projecting dorsally at right angles in a median plane, not laterally directed as in *dominicii*. The basal opening is oval, and the apical (posterior) opening is cut down nearly to the base in a wide V; the lower bridge (apparent ventral) is somewhat wider than the upper bridge. Tenth sternites short, with a single slightly serrate recurved tooth at tip. Lobes of ninth tergite prominent, rectangular, longer than broad, bearing many long fine curved setae from small tubercles at the tip (in *dominicii* there are only 5 or 6 flattened setae here).

Type locality: Restrepo, Meta, Colombia. August-September, 1935.

The type will be placed in the U. S. National Museum Collection. Other paratype males have been collected at Retiro, near Restrepo, and at other nearby localities. The larva is unknown, but probably breeds in bromeliads with *dominicii*. It is an interesting and unusual circumstance to find two such closely related species of a new subgenus in the same territory. The discovery of *pseudodominicii* is another instance, if such be needed, of the necessity for examining the male terminalia for differential characters, as the species would undoubtedly have passed for *dominicii* if reliance had been placed solely on colorational characters.

The writer is indebted to Dr. E. Osorno M. for the larva of *dominicii*, and to Dr. Jorge Boshell and Sr. J. V. Acuna, all of the Restrepo Yellow Fever Laboratory, for additional material of *dominicii* and *pseudodominicii*.

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